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CDC Health Advisory

Distributed via Health Alert Network

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Influenza-Associated Pediatric Mortality and *Staphylococcus aureus* co-infection

CDC is requesting that states report all cases of influenza-related pediatric mortality during the 2007-2008 influenza season. This health advisory contains updated information about influenza and bacterial co-infections in children and provides interim testing, treatment and S.aureus isolate submission recommendations.

Background

Since 2004, the Influenza-Associated Pediatric Mortality Surveillance System, part of the Nationally Notifiable Disease Surveillance System, has collected information on deaths among children due to laboratory-confirmed influenza, including the presence of other medical conditions and bacterial infections at the time of death. From October 1, 2006 through September 30, 2007, 73 deaths from influenza in children were reported to CDC from 39 state health departments and two city health departments. Data on the presence (or absence) of bacterial co-infections were recorded for 69 of these cases; 30 (44%) had a bacterial co-infection, and 22 (73%) of these 30 were infected with *Staphylococcus aureus*.

Only one *S. aureus* co-infection among 47 influenza deaths was identified in 2004-2005, and 3 *S. aureus* co-infections among 46 deaths were identified in 2005-2006. Of the 22 influenza deaths reported with *S. aureus* in 2006-2007, 15 (68%) children had infections with methicillin-resistant *S. aureus* (MRSA).

The 73 pediatric influenza-associated deaths reported during 2006-07 was moderately higher than the number reported during the two previous surveillance years; the thirty deaths in which pneumonia or bacteremia due to *S. aureus* was noted represents a five-fold increase. The median age of children with *S. aureus* co-infection was older than children without *S. aureus* co-infection (10 years versus 5 years, $p < .01$) and children with co-infection were more likely to have pneumonia and Acute Respiratory Distress Syndrome (ARDS). Influenza strains isolated from these children were not different from common strains circulating in the community, and the MRSA strains have been similar to those associated with MRSA skin infection outbreaks in the United States.

Recommendation

Health care providers should test persons hospitalized with respiratory illness for influenza, including those with suspected community-acquired pneumonia. Health care providers should be alerted to the possibility of bacterial co-infection among children with influenza, and request bacterial cultures if children are severely ill or when community-acquired pneumonia is suspected. Health care providers should be aware of the prevalence of methicillin-resistant *S.*

aureas strains in their communities when choosing empiric therapy for patients with suspected influenza-related pneumonia. Clinicians, health care providers, and medical examiners are asked to contact their local or state health department as soon as possible when deaths among children associated with laboratory-confirmed influenza are identified. All *S. aureas* isolates from these cases should be sent to the DHEC Bureau of Laboratories. These isolates will be forwarded to the CDC for analysis.

DHEC Contact Information for Reportable Diseases and Reporting Requirements

Reporting of suspected or confirmed cases of pediatric influenza-associated deaths is included in the current DHEC List of Reportable Conditions as a “report within 7 days” condition. Healthcare providers are required to report suspected or confirmed cases to their Regional Public Health Offices, at the contact numbers listed below.

Reporting of suspected and confirmed cases of pediatric influenza-associated deaths is consistent with South Carolina Law requiring the reporting of diseases and conditions to your state or local public health department. (State Law # 44-29-10 and Regulation # 61-20) as per the DHEC 2007 List of Reportable Conditions available at:

<http://www.scdhec.net/hs/diseasecont/disease.htm>.

Federal HIPAA legislation allows disclosure of protected health information, without consent of the individual, to public health authorities to collect and receive such information for the purpose of preventing or controlling disease. (HIPAA 45 CFR §164.512).

CDC requests that state health departments report all cases of pediatric influenza-associated deaths to CDC through <http://sdn.cdc.gov> and that information about bacterial pathogens isolated from sterile sites and/or from sputum or endotracheal aspirates be completed on the Influenza-Associated Pediatric Mortality Surveillance System case report form. If the influenza death was complicated by *S. aureus* infection, state health departments are asked to please contact the clinical agency that reported the case to determine if the *S. aureus* isolate is available. CDC will receive *S. aureus* isolates in order to better characterize those *S. aureus* isolates from children who have died from influenza.

If you have any questions about this Health Advisory, please call the Influenza Division, Epidemiology and Prevention Branch at 404-639-3747.

Regional Public Health Offices – 2008

Mail or call reports to the Epidemiology Office in each Public Health Region.

Region 1

Anderson, Oconee

220 McGee Road
Anderson, SC 29625
Phone: (864) 260-4358
Fax: (864) 260-5623
Nights / Weekends: 1-866-298-4442

Abbeville, Edgefield, Greenwood, Laurens, McCormick, Saluda

1736 S. Main Street
Greenwood, SC 29646
Phone: 1-888-218-5475
Fax: (864) 942-3690
Nights / Weekends: 1-800-420-1915

Region 2

Greenville, Pickens

PO Box 2507
200 University Ridge
Greenville, SC 29602-2507
Phone: (864) 282-4139
Fax: (864) 282-4373
Nights / Weekends: 1-800-993-1186

Cherokee, Spartanburg, Union

PO Box 4217
151 E. Wood Street
Spartanburg, SC 29305-4217
Phone: (864) 596-2227, x- 210
Fax: (864) 596-3443
Nights / Weekends: 1-800-993-1186

Region 3

Chester, Lancaster, York

PO Box 817
1833 Pageland Highway
Lancaster, SC 29721
Phone: (803) 286-9948
Fax: (803) 286-5418
Nights / Weekends: 1-866-867-3886

Region 3 (continued)

Fairfield, Lexington, Newberry, Richland

2000 Hampton Street
Columbia, SC 29204
Phone: (803) 576-2749
Fax: (803) 576-2993
Nights / Weekends: 1-888-554-9915

Region 4

Clarendon, Kershaw, Lee, Sumter

PO Box 1628
105 North Magnolia Street
Sumter, SC 29150
Phone: (803) 773-5511
Fax: (803) 775-9941
Nights/Weekends: 1-877-831-4647

Chesterfield, Darlington, Dillon, Florence, Marlboro, Marion

145 E. Cheves Street
Florence, SC 29506
Phone: (843) 661-4830
Fax: (843) 661-4859
Nights / Weekends: (843) 660-8145

Region 5

Bamberg, Calhoun, Orangeburg

PO Box 1126
1550 Carolina Avenue
Orangeburg, SC 29116
Phone: (803) 533-7199
Fax: (803) 533-7134
Nights / Weekends: (803) 954-8513

Aiken, Allendale, Barnwell

1680 Richland Avenue, W. Suite 40
Aiken, SC 29801
Phone: (803) 642-1618
Fax: (803) 643-8386
Nights / Weekends: (803) 827-8668 or
1-800-614-1519

Region 6

Georgetown, Horry, Williamsburg

1931 Industrial Park Road
Conway, SC 29526-5482
Phone: (843) 915-8804
Fax: (843) 365-0085
Nights / Weekends: (843) 381-6710

Region 7

Berkeley, Charleston, Dorchester

4050 Bridge View Drive, Suite 600
N. Charleston, SC 29405
Phone: (843) 746-3860
Fax: (843) 746-3851
Nights / Weekends: (843) 219-8470

Region 8

Beaufort, Colleton, Hampton, Jasper

219 S. Lemacks Street
Walterboro, SC 29488
Phone: (843) 549-1516, x-214
Fax: (843) 549-6845
Nights / Weekends: 1-800-614-4698

DHEC Bureau of Disease Control

Division of Acute Disease Epidemiology

1751 Calhoun Street
Box 101106
Columbia, SC 29211
Phone: (803) 898-0861
Fax: (803) 898-0897
Nights / Weekends: 1-888-847-0902



www.scdhec.gov

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Health Alert conveys the highest level of importance; warrants immediate action or attention.

Health Advisory provides important information for a specific incident or situation; may not require immediate action.

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